
ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

- 1) Heading of the Part: The Illinois Oil and Gas Act
- 2) Code Citation: 62 Ill. Adm. Code 240
- 3) Section Number: 240.340 Emergency Action: Amendment
- 4) Statutory Authority: Implementing and authorized by the Illinois Oil and Gas Act [225 ILCS 725].
- 5) Effective Date of Emergency Amendment: September 1, 2016
- 6) If this emergency amendment is to expire before the end of the 150-day period, please specify the date on which it is to expire: This emergency amendment will not expire before the end of the 150-day period.
- 7) Date filed with the Index Department:
- 8) A copy of the emergency amendment, including any material incorporated by reference, is on file in the Department of Natural Resource's principal office and is available for public inspection.
- 9) Reason for Emergency: The current regulation, 62 IAC 240.340(e), addressing the use of a step rate test to determine the Maximum Injection Pressure (MIP) allows the MIP to be set at a pressure which will exceed the pressure necessary to propagate fractures. Operation of an injection well at this pressure will essentially allow for the propagation of fractures as well as allow injection fluid to migrate from the permitted injection formation into other formations including underground sources of drinking water (USDW). Additionally, the regulation as written does not address how to determine the MIP when the formation fracture pressure is not exceeded during the test or how to determine the MIP in the event the test reveals an existing fracture.

Migration of injection fluid into USDWs may result in contamination of a USDW. USDWs are aquifers or portions of aquifers that currently supply drinking water for human consumption or are capable of supplying such water in the future. Contamination of a USDW poses significant risks to the health of persons. Injection at or above pressures necessary to propagate fractures may allow the formation of new fractures and will allow the propagation of existing fractures, thereby, allowing the transmission of

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

fluid out of the injection interval. This type of uncontrolled fracturing may cause permanent damage to the injection formation or confining formations by allowing fractures to become and remain transmissive increasing the risk of contamination of USDWs.

The Office of Oil and Gas Resource Management currently has several applications from multiple operators pending before it in which the applicant is requesting MIPs above the pressure necessary to propagate fractures based on step rate test results. To approve those permits, or future permits, allowing injection at such high pressures would put multiple oil producing formations at risk and likely endanger many different drinking water supplies.

- 10) A Complete Description of the Subjects and Issues Involved: The current rule is not in compliance with Federal guidance. The proposed amendment regarding the Step-Rate Test has been changed to be consistent with Federal guidance and to protect drinkable water. The Step-Rate Test results will now be consistent with the other possible tests (frac-treatment and acid test) for formation integrity and will also no longer give a result that would damage the formation or endanger water supplies.
- 11) Are there any proposed amendments pending on this Part? No
- 12) Statement of Statewide Policy Objective: This rulemaking neither creates, nor expands, any State mandate affecting units of local government.
- 13) Information and questions regarding this amendment shall be directed to:

John Heidinger, Legal Counsel
Department of Natural Resources
One Natural Resources Way
Springfield IL 62702-1271

217/782-1809

The full text of the Emergency Amendment begins on the next page:

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

TITLE 62: MINING

CHAPTER I: DEPARTMENT OF NATURAL RESOURCES

PART 240

THE ILLINOIS OIL AND GAS ACT

SUBPART A: GENERAL PROVISIONS

Section	
240.10	Definitions
240.20	Prevention of Waste (Repealed)
240.30	Jurisdiction (Repealed)
240.40	Enforcement of Act (Repealed)
240.50	Delegation of Authority (Repealed)
240.60	Right of Inspection (Repealed)
240.70	Right of Access (Repealed)
240.80	Sworn Statements (Repealed)
240.90	Additional Reports (Repealed)
240.100	When Rules Become Effective (Repealed)
240.110	Notice of Rules (Repealed)
240.120	Forms (Repealed)
240.125	Notice
240.130	Hearings – Notices (Repealed)
240.134	Lease Validation Petitions
240.135	Falsification or Misstatement of Information
240.131	Unitization Hearings
240.132	Integration Hearings
240.133	Hearings to Establish Pool-Wide Drilling Units
240.140	Violations Not Requiring Formal Action
240.150	Notice of Violation
240.155	Civil Complaint
240.160	Director's Decision
240.170	Cessation Order (Repealed)
240.180	Enforcement Hearings and Enforcement Cessation Orders
240.185	Cessation of Oil Production Operations
240.186	Cessation of Conditions Creating an Imminent Danger to Public Health and Safety and the Environment
240.190	Temporary Relief Hearings

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.195 Subpoenas

SUBPART B: PERMIT APPLICATION PROCEDURES FOR PRODUCTION WELLS

Section

240.200	Applicability
240.210	Application for Permit to Drill, Deepen or Convert to a Production Well
240.220	Contents of Application
240.230	Authority of Person Signing Application
240.240	Additional Requirements for Directional Drilling
240.245	Additional Requirements for Horizontal Drilling
240.250	Issuance of Permit to Drill or Operate
240.251	Revocation of Permit to Drill
240.255	Conversion of a Production Well to a Water Well
240.260	Change of Well Location
240.270	Application for Approval of Enhanced Recovery Injection and Disposal Operations (Repealed)
240.280	Duration of Underground Injection Well Orders (Repealed)

SUBPART C: PERMIT APPLICATION PROCEDURES FOR CLASS II UIC WELLS

Section

240.300	Applicability
240.305	Transfer of Management (Recodified)
240.310	Application for Permit to Drill, Deepen, or Convert or Amend to a Class II UIC Well
240.311	Application for Freshwater Aquifer Exemption
240.312	Freshwater Aquifer Exemptions
240.320	Contents of Application
240.330	Authority of Person Signing Application
240.340	Proposed Well Construction and Operating Parameters

[EMERGENCY](#)

240.350	Groundwater and Potable Water Supply Information
240.360	Area of Review
240.370	Public Notice
240.380	Issuance of Permit
240.385	Conversion of a Class II Well to a Water Well
240.390	Permit Amendments

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.395 Update of Class II UIC Well Permits Issued Prior to July 1, 1987

SUBPART D: SPACING OF WELLS

Section	
240.400	Definitions
240.410	Drilling Units
240.420	Well Location Exceptions within Drilling Unit
240.430	Drilling Unit Exceptions
240.440	More Than One Well on a Drilling Unit
240.450	Directional Drilling
240.455	Horizontal Drilling
240.460	Modified Drilling Unit
240.465	Special Drilling Unit
240.470	Establishment of Pool-Wide Drilling Units Based Upon Reservoir Characteristics

SUBPART E: WELL DRILLING,
COMPLETION AND WORKOVER REQUIREMENTS

Section	
240.500	Definitions
240.510	Department Permit Posted
240.520	Drilling Fluid Handling and Storage
240.525	Saltwater or Oil Based Drilling Fluid Handling and Storage
240.530	Completion Fluid and Completion Fluid Waste Handling and Storage
240.540	Drilling and Completion Pit Restoration
240.550	Disposal of General Oilfield Wastes and Other Wastes

SUBPART F: WELL CONSTRUCTION, OPERATING AND REPORTING
REQUIREMENTS FOR PRODUCTION WELLS

Section	
240.600	Applicability
240.605	Drilled Out Plugged Hole (DOPH) Notification
240.610	Construction Requirements for Production Wells
240.620	Remedial Cementing of Leaking Wells
240.630	Operating Requirements
240.640	Reporting Requirements

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

- 240.650 Confidentiality of Well Data
- 240.655 Mechanical Integrity Testing for Class II Injection Wells (Repealed)
- 240.660 Monitoring and Reporting Requirements for Enhanced Recovery Injection and Disposal Wells (Repealed)
- 240.670 Avoidable Waste of Gas (Repealed)
- 240.680 Escape of Unburned Gas Prohibited (Repealed)

SUBPART G: WELL CONSTRUCTION, OPERATING
AND REPORTING REQUIREMENTS FOR CLASS II UIC WELLS

- Section
- 240.700 Applicability and Definitions
- 240.710 Surface and Production Casing Requirements for Newly Drilled Class II UIC Wells
- 240.720 Surface and Production Casing Requirements for Conversion to Class II UIC Wells
- 240.730 Surface and Production Casing Requirements for Existing Class II UIC Wells
- 240.740 Other Construction Requirements for Class II UIC Wells
- 240.750 Operating Requirements for Class II UIC Wells
- 240.760 Establishment of Internal Mechanical Integrity for Class II UIC Wells
- 240.770 Establishment of External Mechanical Integrity for Class II UIC Wells
- 240.780 Reporting Requirements for Class II UIC Wells
- 240.790 Confidentiality of Well Data
- 240.795 Commercial Saltwater Disposal Well
- 240.796 Operating and Reporting Requirements, Hydraulic Fracturing Operations, Seismicity

SUBPART H: LEASE OPERATING REQUIREMENTS

- Section
- 240.800 Definitions
- 240.805 Lease and Well Identification
- 240.810 Tanks, Tank Batteries and Containment Dikes
- 240.815 Permanent Well Site Equipment Setback
- 240.820 Flowlines
- 240.830 Power Lines
- 240.840 Equipment Storage
- 240.850 Concrete Storage Structures

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.860	Pits
240.861	Existing Pit Exemption For Continued Production Use
240.862	Existing Pit Exemption For Alternative Use
240.870	Leaking Unpermitted Drill Hole
240.875	Leaking Previously Plugged Well
240.880	Initial Spill Notification
240.890	Crude Oil Spill Remediation Requirements
240.891	Crude Oil Spill Waste Disposal and Remediation
240.895	Produced Water Spill Remediation Requirements

SUBPART I: LIQUID OILFIELD WASTE HANDLING AND DISPOSAL

Section	
240.900	Definitions
240.905	Application for Permit to Operate a Liquid Oilfield Waste Transportation System
240.906	Application for a Liquid Oilfield Waste Transportation Vehicle Permit
240.910	Inspection of Vehicles (Tanks)
240.920	Issuance of Liquid Oilfield Waste Transportation System and Vehicle Permits
240.925	Liquid Oilfield Waste Recordkeeping Requirements
240.926	Liquid Oilfield Waste Transportation System and Vehicle Operating Requirements
240.930	Produced Water
240.940	Crude Oil Bottom Sediments
240.945	Lease Road Oiling
240.950	Crude Oil Spill Waste Disposal (Repealed)
240.960	Oil Field Brine Hauling Permit Conditions (Repealed)
240.970	Inspection of Vehicles (Repealed)
240.980	Transfer of Permits (Repealed)
240.985	Revocation of Oil Field Brine Hauling Permit (Repealed)
240.990	Records and Reporting Requirements (Repealed)
240.995	Bonds – Blanket Surety Bond (Repealed)

SUBPART J: VACUUM

Section	
240.1000	Definitions
240.1005	Applicability
240.1010	Application for Vacuum Permit

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.1020	Contents of Application
240.1030	Authority of Person Signing Application
240.1040	Notice and Hearing
240.1050	Issuance of Permit
240.1060	Permit Amendments

SUBPART K: PLUGGING OF WELLS

Section	
240.1105	Plugging of Non-Productive Wells (Repealed)
240.1110	Definitions
240.1115	Plugging Responsibility
240.1120	Plugging of Uncased Wells
240.1130	Plugging and Temporary Abandonment of Inactive Production Wells
240.1131	Extension of Future Use Status for Production Wells (Repealed)
240.1132	Plugging and Temporary Abandonment of Inactive Class II UIC Wells
240.1140	General Plugging Procedures and Requirements
240.1150	Specific Plugging Procedures
240.1151	Procedures for Plugging Coal Seams
240.1160	Plugging Fluid Handling and Storage
240.1170	Plugging Fluid Waste Disposal and Well Site Restoration
240.1180	Lease Restoration
240.1181	Lease Restoration Requirements (Repealed)
240.1190	Filing Plugging Report

SUBPART L: REQUIREMENTS FOR OTHER TYPES OF WELLS

Section	
240.1200	Applicability
240.1205	Application for Permit to Drill a Test Well or Drill Hole
240.1210	Contents of Application for Permit to Drill or Convert to an Observation, Gas Storage Well or Service Well (Repealed)
240.1220	Contents of Application for Coal Test Hole, Mineral Test Hole, Structure Test Hole, or Coal or Mineral Groundwater Monitoring Well
240.1230	Authority of Person Signing Application
240.1240	Issuance of Permit
240.1250	When Wells Shall Be Plugged and Department Notification
240.1260	Plugging and Restoration Requirements

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.1270 Confidentiality
240.1280 Converting to Water Well

SUBPART M: PROTECTION OF WORKABLE COAL BEDS

Section

240.1300 Introduction
240.1305 Permit Requirements in Mine Areas
240.1310 Workable Coal Beds Defined
240.1320 Mining Board may Determine Presence of Coal Seams
240.1330 Well Locations Prohibited
240.1340 Notice to Mining Board
240.1350 Casing and Protective Work
240.1360 Operational Requirements Over Active Mine
240.1370 Inspection of Vehicles (Recodified)
240.1380 Transfer of Permits (Recodified)
240.1385 Revocation of Oil Field Brine Hauling Permit (Recodified)
240.1390 Records and Reporting Requirements (Recodified)
240.1395 Bonds – Blanket Surety Bond (Recodified)

SUBPART N: ISSUANCE OR TRANSFER OF PERMIT TO OPERATE

Section

240.1400 Definitions
240.1405 Transfer of Management (Repealed)
240.1410 Applicability
240.1420 Notification
240.1425 Authority of Person Signing Transfer Notification
240.1430 Responsibilities of Current Permittee
240.1440 Responsibilities of New Permittee or Proposed New Permittee
240.1450 Authority of Persons Signing Notification
240.1460 Conditions for and Effect of Issuance or Transfer of Permit to Operate
240.1465 Condition for and Effect of Transfer of PRF Wells
240.1470 Revocation of Permit to Operate
240.1480 Involuntary Transfer
240.1485 Administrative Record Correction
240.1490 Transfer Hearings

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

SUBPART O: BONDS

Section

240.1500	When Required, Amount and When Released
240.1510	Definitions
240.1520	Bond Requirements
240.1530	Forfeiture of Bonds

SUBPART P: WELL PLUGGING AND RESTORATION PROGRAM

Section

240.1600	Definitions
240.1610	Plugging Leaking or Abandoned Wells
240.1620	Plugging Orphaned Wells
240.1625	Plugging Abandoned Wells Through Landowner Grant
240.1630	Emergency Well Plugging, Emergency Repair Work, Emergency Projects
240.1635	Emergency Well Plugging and Emergency Project Reimbursement
240.1640	Repayment of Funds
240.1650	Authorization for a Permittee to Operate Its Wells Placed into the Plugging and Restoration Fund Program for Abandonment
240.1660	Authorization for a Permittee to Operate Its Wells Placed into the Plugging and Restoration Fund Program for Non-Payment of Annual Well Fees

SUBPART Q: ANNUAL WELL FEES

Section

240.1700	Fee Liability
240.1705	Amount of Assessment
240.1710	Annual Permittee Reporting
240.1720	When Annual Well Fees are Due
240.1730	Opportunity to Contest Billing
240.1740	Delinquent Permittees

SUBPART R: REQUIREMENTS IN UNDERGROUND GAS STORAGE FIELDS
AND FOR GAS STORAGE AND OBSERVATION WELLS

Section

240.1800	Applicability
----------	---------------

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

240.1805	Definitions
240.1810	Submission of Underground Gas Storage Field Map
240.1820	Permit Requests in a Underground Gas Storage Field
240.1830	Application for Permit to Drill or Convert Wells
240.1835	Content of Application for Permit to Drill or Convert to an Observation or Gas Storage Well
240.1840	Authority of Person Signing Application
240.1850	Issuance of Permit
240.1852	Gas Storage and Observation Well, Construction, Operating and Reporting Requirements
240.1855	Well Drilling Completion and Workover Requirements
240.1860	Storage Field Operating Requirements
240.1865	Liquid Oilfield Waste Disposal
240.1870	Plugging of Gas Storage and Observation Wells

SUBPART S: REQUIREMENTS FOR SERVICE WELLS

Section	
240.1900	Applicability
240.1905	Application for Permit to Drill or Convert to Other Types of Wells or Drill Holes
240.1910	Contents of Application for Permit to Drill or Convert to a Service Well
240.1920	Authority of Person Signing Application
240.1930	Issuance of Permit
240.1940	When Wells Shall Be Plugged and Department Notification
240.1950	Plugging and Restoration Requirements
240.1960	Converting to Water Well

AUTHORITY: Implementing and authorized by the Illinois Oil and Gas Act [225 ILCS 725].

SOURCE: Adopted November 7, 1951; emergency amendment at 6 Ill. Reg. 903, effective January 15, 1982, for a maximum of 150 days; amended at 6 Ill. Reg. 5542, effective April 19, 1982; codified at 8 Ill. Reg. 2475; amended at 11 Ill. Reg. 2818, effective January 27, 1987; amended at 14 Ill. Reg. 2317, effective January 25, 1990; recodified at 14 Ill. Reg. 3053; amended at 14 Ill. Reg. 13620, effective August 8, 1990; amended at 14 Ill. Reg. 20427, effective January 1, 1991; amended at 15 Ill. Reg. 2706, effective January 31, 1991; recodified at 15 Ill. Reg. 8566; recodified at 15 Ill. Reg. 11641; emergency amendment at 15 Ill. Reg. 14679, effective September 30, 1991, for a maximum of 150 days; amended at 15 Ill. Reg. 15493, effective October 10, 1991; amended at 16 Ill. Reg. 2576, effective February 3, 1992; amended

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

at 16 Ill. Reg. 15513, effective September 29, 1992; expedited correction at 16 Ill. Reg. 18859, effective September 29, 1992; emergency amendment at 17 Ill. Reg. 1195, effective January 12, 1993, for a maximum of 150 days; amended at 17 Ill. Reg. 2217, effective February 8, 1993; amended at 17 Ill. Reg. 14097, effective August 24, 1993; amended at 17 Ill. Reg. 19923, effective November 8, 1993; amended at 18 Ill. Reg. 8061, effective May 13, 1994; emergency amendment at 18 Ill. Reg. 10380, effective June 21, 1994, for a maximum of 150 days; amended at 18 Ill. Reg. 16361, effective November 18, 1994; amended at 19 Ill. Reg. 10981, effective July 14, 1995; amended at 21 Ill. Reg. 7164, effective June 3, 1997; emergency amendment at 22 Ill. Reg. 988, effective December 22, 1997, for a maximum of 150 days; amended at 22 Ill. Reg. 8422, effective April 28, 1998; amended at 22 Ill. Reg. 8845, effective April 28, 1998; amended at 22 Ill. Reg. 22314, effective December 14, 1998; amended at 25 Ill. Reg. 9045, effective July 9, 2001; amended at 35 Ill. Reg. 13281, effective July 26, 2011; amended at 38 Ill. Reg. 18717, effective August 29, 2014; amended at 38 Ill. Reg. 22052, effective November 14, 2014; amended at 40 Ill. Reg. 7051, effective April 22, 2016; expedited correction at 40 Ill. Reg. 11042, effective April 22, 2016; emergency amendment at 40 Ill. Reg. _____, effective _____, for a maximum of 150 days.

SUBPART C: PERMIT APPLICATION PROCEDURES FOR CLASS II UIC WELLS

Section 240.340 Proposed Well Construction and Operating Parameters

EMERGENCY

- a) Well Construction Records for Conversion Wells
If the application is for the conversion of a previously drilled well, the applicant shall:
 - 1) submit a complete copy of all available geophysical logs run on the well; and
 - 2) submit a copy of the initial Completion Report or casing and cementing records of the well; and
 - 3) establish external mechanical integrity in accordance with Section 240.770(c).
- b) Schematic Diagram
The applicant shall submit a schematic diagram of the proposed injection well showing:

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

- 1) the total depth and plugged back depth of the well;
 - 2) the sizes and depths of the holes drilled for the surface casing, mine or intermediate casing, and production casing;
 - 3) the sizes and depths of all casing in the well and any additional casing to be used in the well;
 - 4) the amount of cement used for each string of casing in the well and any additional cement to be used in the well;
 - 5) the size of the tubing and setting depth of the packer;
 - 6) the top and bottom depths of all perforated intervals in the casing; and
 - 7) the geologic name and the depth of the top and bottom of the proposed injection interval.
- c) **Proposed Injection Rate**
The applicant shall submit the proposed injection rate expressed in average barrels per day.
- d) **Injection Fluid**
The applicant shall submit the depth and geologic name of the formations from which the injection fluid is to be obtained, a standard laboratory analysis of a representative sample of the fluid to be injected and the date the sample was obtained. The sample shall be analyzed for at least the following parameters: pH, Chloride, Total Dissolved Solids, and Specific Gravity. The sample shall be obtained and analyzed no earlier than one year prior to the date of filing of the application. If the injection fluid is other than water, the sample shall be analyzed for the chemical components and Specific Gravity of the fluid.
- e) **Proposed Maximum Injection Pressure**
- 1) The applicant shall submit the proposed maximum injection pressure in accordance with the following formula:

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

$$MIP = (.80 - (.433 \times SG_{Sp.Gr.})) \times D_{Depth} - 14.7$$

Where:

M.I.P. = maximum allowable injection pressure

(PSI)

$SG_{Sp.Gr.}$ = specific gravity of the injection fluid

D_{Depth} = depth of the top of the upper most injection interval (ft.)

- 2) If the proposed maximum injection pressure exceeds the amount calculated in accordance with subsection (e)(1), the applicant shall submit the most recent information showing that the proposed maximum injection pressure will not initiate or propagate fractures in the injection interval or overlying strata that could enable the injection fluid or the fluid in the injection interval to leave the permitted injection intervals. The types of information that will be considered acceptable by the Department include, but are not limited to:
- A) A copy of the ticket and pressure chart from a "frac" or "acid" treatment in the injection interval in the proposed well, or from the same interval or a stratigraphically higher interval in from a well within 1 mile of the proposed well, that shows the Instantaneous Shut-In Pressure (ISIP). The maximum allowable injection pressure shall be 10% less than the ISIP measured at the surface unless the specific gravity of the treatment fluid is less than the specific gravity of the proposed injection fluid, in that case the ISIP shall be measured at the injection interval.
 - B) The results of a step rate test, both ticket and chart, from the injection interval in the proposed well, or from the same interval or a stratigraphically higher interval in a well within 1 mile of the proposed well that shows that the proposed maximum injection pressure will not propagate fractures allowing the injection fluid to migrate out of the permitted injection interval. The maximum allowable injection pressure shall be 10% less than the ISIP pressure, measured at the surface if the formation fracture pressure was exceeded during the test or an existing fracture was

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

opened. In the event the formation fracture pressure was not exceeded and an existing fracture was not opened, the maximum allowable injection pressure shall be the highest step pressure recorded during the step rate test, at which the formation broke during the test. A step rate test shall at a minimum include the following:

- i) A statement specifying the length of the shut in period. Prior to testing, shut in the well long enough so that the bottom-hole pressure approximates shut in formation pressure. A zero injection rate (pressure stabilizing) step, at least three rate steps of equal length below the fracture opening pressure and at least two rate steps above the fracture opening pressure. The rate of increase for each step following fracture opening shall be at least 120 percent of the preceding rate. Each step shall be at least 4 minutes in length.
- ii) Measurement of at least six rate steps recording the injection rate, pressure, and elapsed time of each.
- iii) An initial zero injection rate (pressure stabilizing) step.
- iv) Each rate step after the zero injection rate step shall be at least 120 percent of the preceding rate.
- v) Each rate step shall be of equal length and of at least 4 minutes in duration.
- vi) At least three rate steps below the formation fracture pressure are required; if the formation fracture pressure was not exceeded and an existing fracture was not opened, at least five rate steps are required.
- vii) If the formation fracture pressure was exceeded, at least two rate steps above the formation fracture pressure are required.

ILLINOIS REGISTER

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF EMERGENCY AMENDMENT

viii) If an existing fracture is opened during the test, no further rate steps are required.

viv) If the formation fracture pressure was exceeded or an existing fracture was opened, the shut-down pressure, instantaneous shut-in pressure and 5-minutes shut-down pressure must be obtained, read, and recorded.

~~The results of a step rate test shall be plotted on a graph with the pressure at the end of each step plotted against the injection rate at the end of the same step. Best fit lines shall be constructed using the points before and after fracture opening.~~

xiii) If the Department has reason to believe induced fractures have occurred as a result of long term injection above the fracture pressure, the Department shall determine if the results of a step rate test are acceptable to permit the proposed maximum injection pressure.

C) In the event the Department determines the information submitted under subsection (e)(2) is not acceptable, the Department will issue a deficiency letter. If a timely response is not received or the response is determined inadequate, the MIP will be calculated using the formula found in subsection (e)(1) above.

(Source: Emergency Amendment at 40 Ill. Reg. _____, effective _____, for a maximum of 150 days)